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         (c) 1999 Cambridge Sci Abs
File  94:JICST-EPlus 1985-1999/Mar W4
         (c)1999 Japan Science and Tech Corp(JST)
File  99:Wilson Appl. Sci & Tech Abs 1983-1999/May
         (c) 1999 The HW Wilson Co.
File 144:PASCAL 1973-1999/JUN
         (c) 1999 INIST/CNRS
File 305:Analytical Abstracts 1980-1999/Aug
         (c) 1999 Royal Soc Chemistry
File 315:ChemEng & Biotec Abs 1970-1999/Jul
         (c)1999 RoySocChm,DECHEMA,FizChemie
File  34:SciSearch(R) Cited Ref Sci 1990-1999/Jul W1
         (c) 1999 Inst for Sci Info
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
?ds

Set     Items   Description
S1      48030    (CALCIUM OR CA OR MONOCALCIUM)()(CARBONATE OR CO3 OR MONOC-
             ARBONATE) OR CALCITE OR CACO3 OR CARBONIC()ACID()(CALCIUM OR -
             CA)()SALT OR CHALK
S2       6926    (CALCIUM OR CA)()(HYDROXIDE OR OH2 OR HYDRATE OR DIHYDROXI-
             DE) OR CAOH2 OR (HYDRATE? OR SLAKE? OR MILK OR WATER OR H2O)(-
             N)LIME OR CARBOXIDE OR HYDRALIME
S3     286104    (CARBON OR C)()(DIOXIDE OR O2 OR OXIDE) OR DRY()ICE OR CAR-
             BONIC()ACID()(ANHYDRIDE OR GAS) OR CARBONIC()ANHYDRIDE OR CO2
S4       3507    S1(3N)(PRODUC? OR PROD? ? OR GENERAT? OR MANUF? OR MNFG? OR
              MFG? OR MFR? OR CREAT? OR FORM?? OR FORMING? OR FORMAT? OR M-
             AKE? ? OR MADE? ? OR MAKING?)
S5        445    S1(3N)(SYNTHESI? OR PREPAR? OR PREP? ? OR PRPN?)
S6       2831    S1(3N)(PRECIPITAT? OR PPT OR PPT? ?)
S7        235    S2(3N)(SUSPENS? OR DISPERS? OR COLLOID? OR EMULS? OR MICRO-
             EMULS? OR SLURR?)
S8         80    S2(3N)SUSPEN?
S9       7485    S1(10N)(AQ? ? OR AQUEOUS OR WATER OR H2O OR LIQ OR LIQUID?
             OR SOLUTION? OR SOLN? ?)
S10   1514077    MIX OR MIXE? ? OR MIXING OR BLEND? OR ADMIX? OR COMMIX? OR
             IMMIX? OR INTERMIX? OR DOPE? ? OR DOPING?
S11     29365    S10(3N)(SERIES OR MULTI OR MANY OR SEVERAL OR PLURALITY OR
             MULTITUD? OR MULTIPLE OR PLURIF? OR GROUP? OR SET OR NETWORK?
             OR SUCCESSION OR SEQUEN? OR CONSECUTIV?)
S12         2    S4-S5 AND S7-S8 AND S6
S13         2    RD S12 (unique items)
?t13/7/all
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13/7/1   (Item 1 from file: 315)
DIALOG(R)File 315:ChemEng & Biotec Abs

458343 CEABA Accession No.: 30-05-007753 DOCUMENT TYPE: Journal
Title: Preparing **high opacity** precipitated calcium carbonate **using the causticizing reaction.**
AUTHOR: Merris, C. S.,Jr.
CORPORATE SOURCE: P. H. Glatfelter Co. Spring Grove, PA 17362 USA
JOURNAL: AIChE Symp. Ser., Volume: 94, Issue: 319, Page(s): 103-119
CODEN: ACSSCQ   ISSN: 00658812
PUBLICATION DATE: 1998 (19980000)

ABSTRACT: The production of high opacity **precipitated calcium carbonate** (PCC) by the soda ash-lime (SAL) reaction was investigated. A high opacity PCC was achieved in the laboratory. Key process variables included slow addition of sodium carbonate solution to the **calcium hydroxide slurry** , temperature below 50.degree.C, and uniform mixing. Laboratory results were used to scale up to a 450 L pilot reactor and a 43 m3 commercial reactor. PCC scattering coefficients of 2700-3000 cm2/g were achieved. PCC produced in the commercial SAL reactor was used to produce a lightweight grade of printing paper on a commercial paper machine.

13/7/2 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

07760241 Genuine Article#: 205NP Number of References: 33
Title: Influence of surface modifiers on the structure of precipitated calcium carbonate
Author(s): Agnihotri R; Mahuli SK; Chauk SS; Fan LS (REPRINT)
Corporate Source: OHIO STATE UNIV,DEPT CHEM ENGN, 140 W 19TH AVE/COLUMBUS//OH/43210 (REPRINT); OHIO STATE UNIV,DEPT CHEM ENGN/COLUMBUS//OH/43210
Journal: INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, 1999, V38, N6 (JUN) , P2283-2291
ISSN: 0888-5885 Publication date: 19990600
Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036
Language: English Document Type: ARTICLE
Abstract: A **calcium carbonate** (**CaCO3**) sorbent **synthesized** in the presence of surface modifiers has recently been developed in this laboratory for the purpose of enhancing the reactivity toward SO2 at high temperatures (800-1150 degrees C). The **calcium carbonate** particles are **produced** by precipitation from an aqueous **suspension** of **calcium hydroxide** by bubbling pure CO2. The operating parameters such as suspension concentration, gas flow rate, and concentration of surface modifiers are varied to study their influence on the particle size, surface area, and pore volume. The **synthesized CaCO3** particles exhibit dramatically high SO2 reactivity and sorbent utilization. The increased reactivity is primarily due to the development of an open initial pore structure of the sorbent brought about by the action of surface-active agents, compared to the conventional calcium-based sorbents. zeta-potential measurements indicate that addition and subsequent adsorption of anionic surfactants neutralize the high positive surface charge (30 mV) on the **precipitated calcium carbonate** and facilitate particle agglomeration and pore structure development. High surface area (>55 m(2)/g) and pore volume (>0.175 cm(3)/g) are obtained for particles with neutral or near-neutral surface changes.
?

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Set     Items   Description
S1      48030   (CALCIUM OR CA OR MONOCALCIUM)()(CARBONATE OR CO3 OR MONOC-
             ARBONATE) OR CALCITE OR CACO3 OR CARBONIC()ACID()(CALCIUM OR -
             CA)()SALT OR CHALK
S2       6926   (CALCIUM OR CA)()(HYDROXIDE OR OH2 OR HYDRATE OR DIHYDROXI-
             DE) OR CAOH2 OR (HYDRATE? OR SLAKE? OR MILK OR WATER OR H2O)(-
             N)LIME OR CARBOXIDE OR HYDRALIME
S3     286104   (CARBON OR C)()(DIOXIDE OR O2 OR OXIDE) OR DRY()ICE OR CAR-
             BONIC()ACID()(ANHYDRIDE OR GAS) OR CARBONIC()ANHYDRIDE OR CO2
S4       3507   S1(3N)(PRODUC? OR PROD? ? OR GENERAT? OR MANUF? OR MNFG? OR
              MFG? OR MFR? OR CREAT? OR FORM?? OR FORMING? OR FORMAT? OR M-
             AKE? ? OR MADE? ? OR MAKING?)
S5        445   S1(3N)(SYNTHESI? OR PREPAR? OR PREP? ? OR PRPN?)
S6       2831   S1(3N)(PRECIPITAT? OR PPT OR PPT? ?)
S7        235   S2(3N)(SUSPENS? OR DISPERS? OR COLLOID? OR EMULS? OR MICRO-
             EMULS? OR SLURR?)
S8         80   S2(3N)SUSPEN?
S9       7485   S1(10N)(AQ? ? OR AQUEOUS OR WATER OR H2O OR LIQ OR LIQUID?
             OR SOLUTION? OR SOLN? ?)
S10   1514077   MIX OR MIXE? ? OR MIXING OR BLEND? OR ADMIX? OR COMMIX? OR
             IMMIX? OR INTERMIX? OR DOPE? ? OR DOPING?
S11     29365   S10(3N)(SERIES OR MULTI OR MANY OR SEVERAL OR PLURALITY OR
             MULTITUD? OR MULTIPLE OR PLURIF? OR GROUP? OR SET OR NETWORK?
             OR SUCCESSION OR SEQUEN? OR CONSECUTIV?)
S12         2   S4-S5 AND S7-S8 AND S6
S13         2   RD S12 (unique items)
S14         4   S4-S5 AND S7-S8 AND S9
S15         4   RD S14 (unique items)
S16         3   S15 NOT S13
S17         3   S13-S14 AND S3
?t17/7/all
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17/7/1 (Item 1 from file: 94)

DIALOG(R)File 94:JICST-EPlus

00716772 JICST ACCESSION NUMBER: 88A0492116 FILE SEGMENT: JICST-E

Synthesis of whisker like aragonite CaCO3.

TANAKA HIROICH (1); HORIUCHI HIDEKI (1); OHKUBO TSUTOMU (1)
(1) Okutama Kogyo Co., Ltd.

Sekko to Sekkai(Gypsum & Lime), 1988, NO.216, PAGE.314-321, FIG.13, TBL.4, REF.5
JOURNAL NUMBER: F0275AAF ISSN NO: 0559-331X CODEN: SSEKA
UNIVERSAL DECIMAL CLASSIFICATION: 661.66
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper

ABSTRACT: Three crystal **forms** of **CaCO3** , **calcite** , aragonite and vatelite are well-known. Synthesized aragonite is crystallized as needle-like shape. Investigation were made on the crystal growth of those needle-like **CaCO3** **produced** from the **solution** of milky lime through blowing **CO2** with perfect mixing by continuous reactor. The results obtained are as follows. 1. Both pH and reaction temperature affect shape of CaCO3. At reaction temperature under 50.DEG.C, cubic **calcite** is **formed** in the range of pH from 6 to 8, and from 9 to 11. But in pH range between 8 and 9, spindle **calcite** is **formed** . At reaction temperature over 50.DEG.C, cubic **calcite** is **formed** in pH ranging from 6 to 8 and from 9 to 11, but in pH range between 8 and 9, needle-like is formed. 2. Addition of seed crystals controls the size of needle-like aragonite. 3. Both **CO2** concentration in reaction gas and Ca(OH)2 concentration in **slaked** **lime** **slurry** scarcely affect the degree of crystal growth of needle-like CaCO3.(author abst.)

17/7/2 (Item 1 from file: 144)

13049012 PASCAL No.: 97-0338799

High surface area calcium carbonate : Pore structural properties and sulfation characteristics

WEI S H; MAHULI S K; AGNIHOTRI R; FAN L S
Department of Chemical Engineering, The Ohio State University, Columbus, Ohio 43210, United States

Journal: Industrial & engineering chemistry research, 1997, 36 (6) 2141-2148
ISSN: 0888-5885 CODEN: IECRED Availability: INIST-120F; 354000061718630240
No. of Refs.: 21 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United States
Language: English

Limestone or calcium carbonate (CaCO SUB 3) used as a sorbent in the removal of acid gas precursors (SO SUB 2) from combustion systems suffers from poor pore structural properties which causes low reactivity and incomplete utilization. The surface area and pore size distribution of CaCO SUB 3 , if tailored appropriately, can considerably enhance its reactivity for SO SUB 2 . This study focuses on the optimization of pore properties of CaCO SUB 3 particles and the enhancement of SO SUB 2 reactivity and ultimate utilization. The carbonate is produced by precipitation from an aqueous **suspension** of **calcium** **hydroxide** by injecting CO SUB 2 . The influence of operating parameters, suspension concentration, gas flow rate, and additives (surfactant) on the surface area and pore volume is investigated. The surface area of the carbonate powder can be controlled in the range of 10-70 m SUP 2 /g by varying the operating parameters. The SO SUB 2 reactivity and the ultimate utilization of the calcium carbonate indicate a dramatic improvement and can be correlated with the surface area and pore volume characteristics of the particles.

17/7/3 (Item 1 from file: 34)

07760241 Genuine Article#: 205NP Number of References: 33

Title: Influence of surface modifiers on the structure of precipitated calcium carbonate

Author(s): Agnihotri R; Mahuli SK; Chauk SS; Fan LS (REPRINT)
Corporate Source: OHIO STATE UNIV,DEPT CHEM ENGN, 140 W 19TH AVE/COLUMBUS//OH/43210 (REPRINT); OHIO STATE UNIV,DEPT CHEM ENGN/COLUMBUS//OH/43210

Journal: INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, 1999, V38, N6 (JUN), P2283-2291
ISSN: 0888-5885 Publication date: 19990600
Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036
Language: English Document Type: ARTICLE

Abstract: A **calcium** **carbonate** (**CaCO3**) sorbent **synthesized** in the presence of surface modifiers has recently been developed in this laboratory for the purpose of enhancing the reactivity toward SO2 at high temperatures (800-1150 degrees C). The **calcium** **carbonate** particles are **produced** by precipitation from an **aqueous** **suspension** of **calcium** **hydroxide** by bubbling pure **CO2** . The operating parameters such as suspension concentration, gas flow rate, and concentration of surface modifiers are varied to study their influence on the particle size, surface area, and pore volume. The **synthesized** **CaCO3** particles exhibit dramatically high SO2 reactivity and sorbent utilization. The increased reactivity is primarily due to the development of an open initial pore structure of the sorbent brought about by the action of surface-active agents, compared to the

conventional calcium-based sorbents. zeta-potential measurements indicate that addition and subsequent adsorption of anionic surfactants neutralize the high positive surface charge (30 mV) on the **precipitated calcium carbonate** and facilitate particle agglomeration and pore structure development. High surface area (>55 m(2)/g) and pore volume (>0.175 cm(3)/g) are obtained for particles with neutral or near-neutral surface changes.

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Set     Items   Description
S1      48030   (CALCIUM OR CA OR MONOCALCIUM)()(CARBONATE OR CO3 OR MONOC-
             ARBONATE) OR CALCITE OR CACO3 OR CARBONIC()ACID()(CALCIUM OR -
             CA)()SALT OR CHALK
S2       6926   (CALCIUM OR CA)()(HYDROXIDE OR OH2 OR HYDRATE OR DIHYDROXI-
             DE) OR CAOH2 OR (HYDRATE? OR SLAKE? OR MILK OR WATER OR H2O)(-
             N)LIME OR CARBOXIDE OR HYDRALIME
S3     286104   (CARBON OR C)()(DIOXIDE OR O2 OR OXIDE) OR DRY()ICE OR CAR-
             BONIC()ACID()(ANHYDRIDE OR GAS) OR CARBONIC()ANHYDRIDE OR CO2
S4       3507   S1(3N)(PRODUC? OR PROD? ? OR GENERAT? OR MANUF? OR MNFG? OR
              MFG? OR MFR? OR CREAT? OR FORM?? OR FORMING? OR FORMAT? OR M-
             AKE? ? OR MADE? ? OR MAKING?)
S5        445   S1(3N)(SYNTHESI? OR PREPAR? OR PREP? ? OR PRPN?)
S6       2831   S1(3N)(PRECIPITAT? OR PPT OR PPT? ?)
S7        235   S2(3N)(SUSPENS? OR DISPERS? OR COLLOID? OR EMULS? OR MICRO-
             EMULS? OR SLURR?)
S8         80   S2(3N)SUSPEN?
S9       7485   S1(10N)(AQ? ? OR AQUEOUS OR WATER OR H2O OR LIQ OR LIQUID?
             OR SOLUTION? OR SOLN? ?)
S10   1514077   MIX OR MIXE? ? OR MIXING OR BLEND? OR ADMIX? OR COMMIX? OR
             IMMIX? OR INTERMIX? OR DOPE? ? OR DOPING?
S11     29365   S10(3N)(SERIES OR MULTI OR MANY OR SEVERAL OR PLURALITY OR
             MULTITUD? OR MULTIPLE OR PLURIF? OR GROUP? OR SET OR NETWORK?
             OR SUCCESSION OR SEQUEN? OR CONSECUTIV?)
S12         2   S4-S5 AND S7-S8 AND S6
S13         2   RD S12 (unique items)
S14         4   S4-S5 AND S7-S8 AND S9
S15         4   RD S14 (unique items)
S16         3   S15 NOT S13
S17         3   S13-S14 AND S3
S18         3   S4-S5 AND S11
S19         3   RD S18 (unique items)
S20         3   S19 NOT (S13 OR S17)
?t20/7/all
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20/7/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

01869197 E.I. Monthly No: EIM8505-025838

Title: INFLUENCE OF PIGMENT PARTICLE SHAPE ON THE PERFORMANCE OF A PAPER COATING.

Author: Crawshaw, D. B.; Clark, P. C.; Kahn-Schneider, C. H.
Corporate Source: Miami Univ, Engineering Div, Oxford, OH, USA
Conference Title: 1982 Coating Conference, Proceedings of the Technical Association of the Pulp and Paper Industry.
Conference Location: Detroit, MI, USA Conference Date: 19820523
Sponsor: TAPPI, Atlanta, GA, USA
E.I. Conference No.: 01264
Source: Coating Conference, Proceedings of the Technical Association of the Pulp and Paper Industry 1982. Publ by TAPPI Press, Atlanta, GA, USA p 143-164
Publication Year: 1982
CODEN: TCCPDB ISSN: 0364-2771
Language: English
Document Type: PA; (Conference Paper)
Journal Announcement: 8505

Abstract: Three precipitated calcium carbonates (PCC's) having different shapes but nearly identical specific surface areas were **prepared** : (1) **calcite** , scalenohedral habit existing in crystal clusters or rosettes; (2) calcite, barrel-shaped prismatic habit; and (3) aragonite, acicular, spindle-shaped habit with an aspect ratio of about five. The chemical composition and surface properties of these pigments were held constant as far as possible. A **series** of clay-PCC **blends** was prepared for each carbonate. PCC particle shape was observed to influence particle packing,

slip and coating color rheology, and the gloss and gloss ink holdout of coated papers. PCC particle shape did not appreciably influence several coated paper properties including brightness, opacity, color, ink absorption, and calendered smoothness. 13 refs.

20/7/2 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

05729608 Genuine Article#: WU149 Number of References: 177
Title: Cenozoic dolomites of carbonate islands: Their attributes and origin
Author(s): Budd DA (REPRINT)
Corporate Source: UNIV COLORADO,DEPT GEOL SCI/BOULDER//CO/80309 (REPRINT)
Journal: EARTH-SCIENCE REVIEWS, 1997, V42, N1-2 (MAR), P1-47
ISSN: 0012-8252 Publication date: 19970300
Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS
Language: English Document Type: REVIEW
Abstract: Dolomites found on and below carbonate islands, atolls and oceanic platforms provide useful insights into the origin of dolomite; insights that may not be attainable from the study of more ancient cratonic dolomites. For this reason they have been the subject of study for decades. A critical mass of case studies now exist and some significant conclusions can be drawn from the cumulative data. In most cases the association with an island is casual and not genetic, nevertheless, these dolomite occurrences are referred to herein as island dolomites.

One type of dolomite on carbonate islands is penecontemporaneous dolomite, a phase that forms while the host sediment is in its original depositional setting. Island examples are Holocene in age, occur in Holocene sediments and originate as a direct precipitate from either normal or evaporated seawater. These are microcrystalline, poorly ordered, Ca-rich O-18-enriched and geochemically unstable phases that are susceptible to recrystallization in the setting in which they formed.

Post-depositional dolomite is the other type of dolomite associated with carbonate islands. This type of dolomite replaces older precursors and forms as cement. Distinctive characteristics include a dominance of fabric-preserving texture, pore-lining cement rims that may exhibit micron-scale banding with low-Mg **calcite** , and **formation** in association with precursor dissolution. Sr-isotopic dating indicates that all examples are Neogene or Quaternary in age. Those formed during the Middle Miocene through Pliocene are massive, laterally continuous, and often multigenerational. In contrast, younger examples tend to be localized partial replacements of a single generation. Sr-isotope ages also suggest global synchroneity in many dolomitization events, which suggests a connection between dolomitization, global eustacy and/or global climatic factors.

Geochemical attributes of post-depositional island dolomites are Ca enrichment positive delta(18)O and delta(13)C, low Sr contents (150-300 ppm) and low Fe(<300 ppm) and Mn(<35 ppm) concentrations. Exceptions to these characteristics occur, but are in the minority and can be explained by local enrichment of C-12 from sulfate reduction or oxidation of methane, excess Sr from aragonite precursors, and allochthonous Fe and Mn from nearby siliciclastics or volcanics.

Global similarity in petrography and geochemistry of replacive island dolomites argues for a similar origin. Inferred origins, however, depend primarily on how delta(18)O and Sr data are interpreted. Values for Delta(18)O and D-Sr must be assumed due to uncertainties in oxygen isotope fractionation and Sr partitioning. There is no consensus or uniformity in those assumptions, thus interpretations can vary and be biased to a desired result.

Covariant trends in delta(13)C, and delta(18)O, some negative delta(13)C values, and high Sr all favor a mixing-zone origin, but examples with these attributes are few. Lack of covariance in the isotopes, mean delta(18)O of +2.0 parts per thousand to +3.5 parts per thousand and low Sr (< 300 ppm) favor an origin from normal or slightly evaporated seawater. Examples with these attributes are in the vast majority, and dolomite geometries and ages relative to overlying limestones indicate that seawater derived laterally is the parent fluid for most of these dolomites. **Many** interpreted as **mixing** -zone or hypersaline reflux products are probably misinterpretations based on unreasonable or extreme assumptions about D-Sr, Delta(18)O or the chemistry of hypothetical end-member dolomites.

Future studies should standardize the type of data collected and the analytical techniques employed. Multiple geochemical attributes should be measured on microsampled components and quantitative modeling should be employed in order to constraint interpretations as much as possible. Also needed are a better understanding of the kinetic processes that form these dolomites, more careful assessment of their recrystallization status and an improved understanding of D-Sr and Delta(18)O at low temperature.

20/7/3 (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

05457086 Genuine Article#: WA266 Number of References: 5
Title: CONDUCTIVITY PROPERTIES OF NA2SO4/CACO3 CATALYSTS AND THEIR EFFECT ON CATALYTIC ACTIVITIES FOR OXIDATIVE COUPLING OF METHANE
Author(s): PIAO H; BI YL; XIA XR; ZHEN KJ
Corporate Source: JILIN UNIV,DEPT CHEM/CHANGCHUN 130023//PEOPLES R CHINA/
Journal: REACTION KINETICS AND CATALYSIS LETTERS, 1996, V59, N1 (SEP), P 159-164
ISSN: 0133-1736
Language: ENGLISH Document Type: ARTICLE
Abstract: A **series** of Na2SO4 **doped** **CaCO3** catalysts were **prepared** . It was observed that the Ct yields and selectivities of Na2SO4/CaCO3 catalysts for OCM are intimately related to their conductivities. The effect of conductivity on the catalytic activity is discussed together with the conductivities and catalytic activities of the catalysts. The higher the conductivities, the higher the C-2 yields and selectivities are.
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Set     Items   Description
S1      48030   (CALCIUM OR CA OR MONOCALCIUM)()(CARBONATE OR CO3 OR MONOC-
                ARBONATE) OR CALCITE OR CACO3 OR CARBONIC()ACID()(CALCIUM OR -
                CA)()SALT OR CHALK
S2       6926   (CALCIUM OR CA)()(HYDROXIDE OR OH2 OR HYDRATE OR DIHYDROXI-
                DE) OR CAOH2 OR (HYDRATE? OR SLAKE? OR MILK OR WATER OR H2O)(-
                N)LIME OR CARBOXIDE OR HYDRALIME
S3     286104   (CARBON OR C)()(DIOXIDE OR O2 OR OXIDE) OR DRY()ICE OR CAR-
                BONIC()ACID()(ANHYDRIDE OR GAS) OR CARBONIC()ANHYDRIDE OR CO2
S4       3507   S1(3N)(PRODUC? OR PROD? ? OR GENERAT? OR MANUF? OR MNFG? OR
                 MFG? OR MFR? OR CREAT? OR FORM?? OR FORMING? OR FORMAT? OR M-
                AKE? ? OR MADE? ? OR MAKING?)
S5        445   S1(3N)(SYNTHESI? OR PREPAR? OR PREP? ? OR PRPN?)
S6       2831   S1(3N)(PRECIPITAT? OR PPT OR PPT? ?)
S7        235   S2(3N)(SUSPENS? OR DISPERS? OR COLLOID? OR EMULS? OR MICRO-
                EMULS? OR SLURR?)
S8         80   S2(3N)SUSPEN?
S9       7485   S1(10N)(AQ? ? OR AQUEOUS OR WATER OR H2O OR LIQ OR LIQUID?
                OR SOLUTION? OR SOLN? ?)
S10   1514077   MIX OR MIXE? ? OR MIXING OR BLEND? OR ADMIX? OR COMMIX? OR
                IMMIX? OR INTERMIX? OR DOPE? ? OR DOPING?
S11     29365   S10(3N)(SERIES OR MULTI OR MANY OR SEVERAL OR PLURALITY OR
                MULTITUD? OR MULTIPLE OR PLURIF? OR GROUP? OR SET OR NETWORK?
                OR SUCCESSION OR SEQUEN? OR CONSECUTIV?)
S12         2   S4-S5 AND S7-S8 AND S6
S13         2   RD S12 (unique items)
S14         4   S4-S5 AND S7-S8 AND S9
S15         4   RD S14 (unique items)
S16         3   S15 NOT S13
S17         3   S13-S14 AND S3
S18         3   S4-S5 AND S11
S19         3   RD S18 (unique items)
S20         3   S19 NOT (S13 OR S17)
S21         1   S16 NOT (S13 OR S17 OR S20)
?t21/7
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21/7/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03326917 E.I. Monthly No: EI9111131543
Title: Formation and structure of carbonate particles in reverse microemulsions.
Author: Roman, Jean-Philippe; Hoornaert, Pierre; Faure, Dominique; Biver, Claudine; Jacquet, Francois; Martin, Jean-Marc
Corporate Source: Cent de Recherches ELF-Solaize, St Symphorien d'Ozon, Fr
Source: Journal of Colloid and Interface Science v 144 n 2 Jul 1991 p 324-339
Publication Year: 1991
CODEN: JCISA5 ISSN: 0021-9797
Language: English
Document Type: JA; (Journal Article) Treatment: X; (Experimental); T; (Theoretical)
Journal Announcement: 9111
Abstract: The carbonation of calcium hydroxide in solution in the presence of sulfonate surfactant has been studied by SAXS, QELS, and TEM techniques. We show that the starting solution is a water-in-oil (w/o) microemulsion containing preexisting micelles of about 10 A in diameter. The reaction leads to well-defined amorphous calcium carbonate particles of a typical size of 20 to 50 A. We also demonstrate that: (i) only 10% of these micelles are nucleated and give stable colloidal amorphous calcium carbonate particles, (ii) the reaction takes place in the polar micellar core, and (iii) the reaction is dependent upon the **water** content of the solution. The growth of the **calcium** **carbonate** particles is **made**

possible by a dynamic exchange with the unnucleated micelles, which provide both the necessary lime and the additional surfactant molecules required to stabilize the colloidal particles. (Author abstract) 27 Refs.
?